

AMENDMENTS TO THE CLAIMS

This listing of Claims shall replace all prior versions, and listings, of claims in the application:

LISTING OF CLAIMS:

1-21. (Cancelled)

22. (New) A dynamic AC prediction method comprising:

 performing DC prediction for a current macroblock using DC coefficients associated with at least one adjacent macroblock;

 performing AC prediction for said current macroblock using AC coefficients associated with said at least one adjacent macroblock;

 determining whether an overflow condition is to occur in a current data packet if said current macroblock is encoded in said current data packet;

 if no overflow condition is to occur, supplying AC predict coefficients and DC predict coefficients for encoding said current macroblock in said current data packet; and

 if said overflow condition is to occur, supplying said AC coefficients and said DC predict coefficients for encoding said current macroblock in a new data packet.

23. (New) The method of Claim 22, wherein said determining comprises determining whether said overflow condition is to occur in said current packet prior to performing further AC prediction for said current macroblock.

24. (New) The method of Claim 22 further comprising:

if said overflow condition is to occur, performing a second DC prediction for said current macroblock; and suspending further AC prediction for said current macroblock.

25. (New) The method of Claim 22, wherein said performing said DC prediction, said performing said AC prediction, said determining whether an overflow condition is to occur are performed in a data partition mode.

26. (New) The method of Claim 22 further comprising:

- if no overflow condition is to occur, determining a predict direction associated with said DC prediction and said AC prediction;
- if said predict direction is determined to be horizontal, generating a signal for performing an alternate-horizontal scan; and
- if said predict direction is determined to be vertical, generating a signal for performing an alternate-vertical scan.

27. (New) The method of Claim 22 further comprising:

- if said overflow condition is to occur, generating a signal for performing a zig-zag scan.

28. (New) The method of Claim 22, wherein said DC coefficients and said AC coefficients comprise a transform coefficient data set, and wherein said transform coefficient data set is generated using a discrete cosine transform.

29. (New) The method of Claim 22 further comprising:

- before determining whether said overflow condition is to occur, determining a macroblock type of said current macroblock;

if said current macroblock comprises an inter block, supplying said AC coefficients and said DC coefficients for encoding said current macroblock in said current data packet;

if said current macroblock comprises an intra block, determining an AC prediction mode status associated with said AC prediction;

if said AC prediction is disabled, supplying said AC coefficients and said DC predict coefficients for encoding said current macroblock in said current data packet; and

if said AC prediction is enabled, supplying said AC predict coefficients and said DC predict coefficients for encoding said current macroblock in said current data packet.

30. (New) A dynamic AC prediction method comprising:

performing AC prediction for a current macroblock using AC coefficients associated with at least one adjacent macroblock;

determining whether an overflow condition is to occur in a current data packet if said current macroblock is encoded in said current data packet;

if no overflow condition is to occur, maintain said AC prediction in an enabled state and designate said current macroblock for encoding in said current data packet; and

if said overflow condition is to occur, suspending said AC prediction and designating said current macroblock for encoding in a new data packet.

31. (New) The method of Claim 30 further comprising:

performing DC prediction for said current macroblock using DC coefficients associated with said at least one adjacent macroblock.

32. (New) The method of Claim 31 further comprising:

- before determining whether said overflow condition is to occur, determining a macroblock type of said current macroblock;
- if said current macroblock comprises an inter block, supplying said AC coefficients and said DC coefficients for encoding said current macroblock in said current data packet;
- if said current macroblock comprises an intra block, determining an AC prediction mode status associated with said AC prediction;
- if said AC prediction is disabled, supplying said AC coefficients and said DC predict coefficients for encoding said current macroblock in said current data packet; and
- if said AC prediction is enabled, supplying said AC predict coefficients and said DC predict coefficients for encoding said current macroblock in said current data packet.

33. (New) The method of Claim 30 further comprising:

- if no overflow condition is to occur, supplying AC predict coefficients and DC predict coefficients for encoding said current macroblock in said current data packet; and
- if said overflow condition is to occur, supplying said AC coefficients and said DC predict coefficients for encoding said current macroblock in said new data packet.

34. (New) The method of Claim 30, wherein said determining comprises determining whether said overflow condition is to occur in said current packet prior to performing further AC prediction for said current macroblock.

35. (New) The method of Claim 30 further comprising:
if said overflow condition is to occur, performing a second DC prediction
for said current macroblock.

36. (New) The method of Claim 30, wherein said performing said AC
prediction and said determining whether an overflow condition is to occur are
performed in a data partition mode.

37. (New) The method of Claim 30 further comprising:
if no overflow condition is to occur, determining a predict direction
associated with said AC prediction;
if said predict direction is determined to be horizontal, generating a signal
for performing an alternate-horizontal scan; and
if said predict direction is determined to be vertical, generating a signal for
performing an alternate-vertical scan.

38. (New) The method of Claim 30 further comprising:
if said overflow condition is to occur, generating a signal for performing a
zig-zag scan.

39. (New) The method of Claim 30, wherein said AC coefficients comprise a
transform coefficient data set, and wherein said transform coefficient data set is
generated using a discrete cosine transform.